

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

VOLKSWAGEN GROUP OF AMERICA, INC.,  
Petitioner,

v.

CARUCEL INVESTMENTS, L.P.,  
Patent Owner.

---

IPR2019-01104  
Patent 8,463,177 B2

---

Before THOMAS L. GIANNETTI, DANIEL J. GALLIGAN, and  
PAUL J. KORNICZKY, *Administrative Patent Judges*.

KORNICZKY, *Administrative Patent Judge*.

DECISION  
Granting Institution of *Inter Partes* Review  
35 U.S.C. § 314

## I. INTRODUCTION

Volkswagen Group of America, Inc. (“Petitioner”) filed a Petition for an *inter partes* review of claims 16, 21–28, 30, 31, 47–49, and 51–53 of U.S. Patent No. 8,463,177 B2 (Ex. 1001, “the ’177 patent”). Paper 2 (“Pet.”). Carucel Investments, L.P. (“Patent Owner”) did not file a Preliminary Response.

Under 37 C.F.R. § 42.4(a), we have authority to determine whether to institute an *inter partes* review. Upon considering the Petition and the evidence of record, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing in showing the unpatentability of at least one of the challenged claims. For the reasons described below, we institute an *inter partes* review of claims 16, 21–28, 30, 31, 47–49, and 51–53 of the ’177 patent with respect to all grounds in the Petition.

## II. BACKGROUND

### A. *Related Proceedings*

According to Petitioner and Patent Owner, the ’177 patent is involved in district court litigations:

- (1) *Carucel Investments LP v. Fiat Chrysler Automobiles US LLC et al.*, Case No. 3-18-cv-03331 (N.D. Tex., filed Dec. 18, 2018),
- (2) *Carucel Investments LP v. General Motors Company*, Case No. 3-18-cv-03332 (N.D. Tex., filed Dec. 18, 2018),
- (3) *Carucel Investments LP v. Volkswagen Group of America Inc.*, Case No. 3-18-cv-03333 (N.D. Tex., filed Dec. 18, 2018), and
- (4) *Carucel Investments LP v. Mercedes-Benz USA LLC et al.*, Case No. 3-18-cv-03334 (N.D. Tex., filed Dec. 18, 2018). Pet. 3; Paper 3, 1.

Petitioner and Patent Owner also state that the '177 patent is related to certain patents involved in *inter partes* reviews:

- (1) U.S. Patent No. 7,221,904: IPR2019-01298, -01101, -01573, -01635;
- (2) U.S. Patent No. 7,848,701: IPR2019-01102, -01442;
- (3) U.S. Patent No. 7,979,023: IPR2019-01079, -01103, -01404; and
- (4) U.S. Patent No. 8,718,543: IPR2019-01105, -01106, -01441.

*See* Pet. 3; Paper 3, 1.

#### *B. Real Parties-in-Interest*

Petitioner identifies itself as the real party in interest. Pet. 2. Patent Owner identifies itself as the real party in interest. Paper 3, 1.

#### *C. The '177 Patent (Ex. 1001)*

The title of the '177 patent is “Mobile Communication System with Moving Base Station.” Ex. 1001, code (54). The '177 patent relates to cellular telephone systems and states that a “problem with existing mobile telephone systems is the considerable time required in handoffs,” which is the process by which a mobile unit is transferred from one cell site to another as it moves through a network. *Id.* at 1:39–47, 1:58–59. According to the '177 patent, in urban areas, the number of cells is increased and cell size is decreased to accommodate more users. *Id.* at 1:59–2:2. The '177 patent states that a drawback of reducing cell size is that mobile units cross cell boundaries more often, requiring more handoffs. *Id.* at 2:2–6.

To address this purported problem, the '177 patent proposes a mobile communication system that employs moving base stations, which move in the direction of traffic along a roadway. *Id.* at 2:65–3:6. The moving base

stations are interposed between mobile units and fixed base stations. *Id.*  
The '177 patent states that, “because of movement of the base station in the same direction as the traveling mobile unit, the number of handoffs is greatly reduced.” *Id.* at 5:17–19.

*D. Illustrative Claim*

As mentioned above, the challenged claims are claims 16, 21–28, 30, 31, 47–49, and 51–53. Claims 16 and 47 are the independent claims among the challenged claims, and are reproduced below:

16. A method comprising:

receiving fixed port signals from a fixed port through the plurality of spatially separated antennas moving relative to Earth; and

transmitting, to a mobile device, radio frequency signals corresponding to the received fixed port signals.

Ex. 1001, 12:18–23.

47. A method comprising:

receiving a first radio frequency signal through a plurality of spatially separated antennas moving relative to Earth and

transmitting, to a mobile device moving relative to Earth, a second radio frequency signal corresponding to the received first radio signal.

Ex. 1001, 14:9–15.

*E. References*

Petitioner relies on the following references:

1. U.S. Patent No. 5,276,686, issued January 4, 1994 (Ex. 1005, “Ito”).

2. U.S. Patent No. 5,504,786, issued April 2, 1996 (Ex. 1006, “Gardner”).
  3. U.S. Patent No. 5,109,390, issued April 28, 1992 (Ex. 1007, “Gilhousen ’390”).
  4. U.S. Patent No. 4,001,692, issued January 4, 1997 (Ex. 1008, “Fenwick”).
  5. U.S. Patent No. 5,559,865, issued September 24, 1996 (Ex. 1009, “Gilhousen ’865”).
- Petitioner also relies on testimony from Scott A. Denning (Ex. 1003, “Denning Decl.”).

*F. Grounds Asserted*

Petitioner challenges the patentability of the ’177 patent claims on the following grounds:

<b>Claim(s) Challenged</b>	<b>35 U.S.C. §</b>	<b>References</b>
16, 21–26, 30, 31, 47–49, 51–53	103	Ito, Gardner
27	103	Ito, Gardner, Gilhousen ’390
28	103	Ito, Gardner, Fenwick
16, 21–27, 30, 31, 47–49, 51–53	103	Gilhousen ’865, Gilhousen ’390
28	103	Gilhousen ’865, Gilhousen ’390, Fenwick

Pet. 7.

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.